

REMARKS

The above amendments introduce no new subject matter into the subject patent application, and it is requested that the amendments be entered without objection. Claim 9 has been amended to correct the lack of antecedent basis for "said biologically detrimental compound." Claims 10 and 14 have been amended to specify that the structural gene codes for a biologically detrimental compound that is commercially valuable. Support for the amendments to claims 10 and 14 is found in claim 9, as originally filed, and throughout the specification, for example at page 3, lines 21-24 and page 6, lines 6-16. A marked-up version of the rewritten claims is submitted concurrently herewith in Appendix A under 37 C.F.R. §1.121(c)(1)(ii).

New claim 20 depends from claim 9 and further specifies that the step of crossing said homozygous transgenic plant with a plant having a DNA sequence comprising a gene encoding a site-specific recombinase produces an F1 plant or seed that expresses the biologically detrimental compound. New claim 21 depends from claim 20 and further specifies the step of extracting the compound from the plant or seed. Support for new claims 20-21 is found throughout the specification, for example at page 8, line 31 to page 9, line 4. New claim 22 depends from claim 9 and specifies that the promoter is a constitutive promoter. Support for new claim 22 is found in the specification, for example at page 13, lines 7-9. New claim 23 depends from claim 9 and specifies that the pair of directly repeated site-specific recombination sequences are FRT recombination sequences, and the gene encoding the site-specific recombinase encodes the FLP recombinase and is operably linked to a constitutive promoter. Support for new claim 23 is found in the specification, for example at page 10, lines 27-29, page 13, lines 25-27, and claim 13 as originally filed. No new matter is added by way of any of these amendments.

The office action mailed on October 10, 2001 required restriction of the 19 pending claims of the captioned application to one of 6 groups. The claim groups identified by the Examiner are as follows:

- Group I: claims 1-4 and 8, drawn to an expression vector comprising a promoter, an FRT recombinase sequence, a blocking sequence, an FRT recombinase sequence, and a structural gene, and a plant entity produced from the introduction of the expression vector.
- Group II: claims 5-7, drawn to an expression vector comprising a promoter, a site-specific recombinase sequence, a blocking sequence, a site specific recombinase sequence, and a polylinker region.
- Group III: claim 9, drawn to a method of transforming a plant with a DNA construct comprising a promoter, a site-specific recombination sequence, a blocking sequence, a site specific recombination sequence, and a structural gene, backcrossing the plant, and crossing with a plant comprising a recombinase DNA.
- Group IV: claims 10-13, drawn to a method comprising crossing a plant comprising a promoter, a site-specific recombination sequence, a blocking sequence, a site specific recombination sequence, and a structural gene, with a plant comprising a recombinase DNA.
- Group V: claim 14, drawn to a method transforming a plant with a DNA construct comprising a promoter, a site-specific recombination sequence, a blocking sequence, a site specific recombination sequence, and a structural gene, and crossing with a plant comprising a recombinase DNA.

Group VI: claims 15-19, drawn to a method comprising cross pollinating a male-sterile plant comprising a DNA construct comprising a promoter, a site-specific recombination sequence, a blocking sequence, a site specific recombination sequence, and a structural gene with a plant comprising a recombinase DNA.

Applicants elect Group III, claim 9, with traverse. Applicants respectfully request reconsideration of the restriction requirement with respect to Groups IV and V. As amended, the claims of Groups III - V represent different stages of a continuing process, that is methods of producing a commercially valuable product by transforming and crossing plants, wherein the plants include a construct having a gene that produces a compound detrimental to the plant but that is commercially valuable. Applicants respectfully content that the claims of groups III - V are not distinct inventions. Therefore, applicant respectfully requests modification of the restriction requirement to allow examination of Groups III - V, claims 9-14. Claims 1-8 and 15-19 are withdrawn without prejudice.

Applicants respectfully request allowance of the pending claims and passage of the application to issuance.

Respectfully submitted,  
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Appendix A  
Marked-Up Version of Rewritten Claim(s) Under 37 C.F.R. §§ 1.121(c)(1)(ii)  
Application No. 09/486,904

Claims 9, 10, and 14 have been amended as follows:

9. (Amended) A method for biosynthetically producing commercially valuable compounds, said method comprising the steps of

producing a fertile transgenic plant by introducing into plant cells a DNA construct comprising a promoter, a blocking sequence, and a structural gene coding for a biologically detrimental compound that is commercially valuable, said blocking sequence being flanked by a pair of directly repeated site-specific recombination sequences and wherein the structural gene becomes operably linked to the promoter only after the removal of said blocking sequence;

cross fertilizing said transgenic plant to produce transgenic plants that are homozygous for the gene encoding said biologically detrimental compound;

crossing said homozygous transgenic plant with a plant having a DNA sequence comprising a gene encoding a site-specific recombinase that recognizes said site-specific recombination sequences.

10. (Amended) A method for biosynthetically producing commercially valuable compounds, said method comprising the step of

cross pollinating a maintainer plant line having a DNA sequence comprising a promoter, a blocking sequence, and a structural gene coding for a biologically detrimental compound that is commercially valuable, said blocking sequence being flanked by a pair of directly repeated site-specific recombination sequences, with an inducer plant line having a

DNA sequence comprising a gene encoding a site-specific recombinase that recognizes said site-specific recombination sequences, wherein the structural gene becomes operably linked to the promoter only after the removal of said blocking sequence in the F1 progeny plants.

14. (Amended) A method for biosynthetically producing commercially valuable compounds, said method comprising the steps of
- producing a maintainer plant line by introducing into plant cells a multi-functional DNA sequence comprising a promoter, a blocking sequence, and a structural gene coding for a biologically detrimental compound that is commercially valuable, said blocking sequence being flanked by a pair of directly repeated site-specific recombination sequences and wherein the structural gene becomes operably linked to the promoter only after the removal of said blocking sequence;
- crossing said maintainer plant line, or the progeny of said maintainer plant line with an inducer plant line, said inducer plant line having a DNA sequence comprising a gene encoding a site-specific recombinase that recognizes said site-specific recombination sequences.